

**REMARKS**

Claims 29-31, 33-34, 38-54, 56, 58, and 60-61 are pending in this application for the Examiner's review and consideration. Applicant appreciates Examiner's allowance of claims 29, 37-39, 58 and 60-61 (claims 37-39 and 58 if rewritten in independent form). In accordance with Examiner's suggestion, Applicants have made several amendments which, in essence, rewrite the claims at issue in independent form. These amendments include incorporating the limitations of claims 35-37 into claim 30, canceling claims 35-37, and amending claims 38 and 40 to depend from claim 30 instead of now-cancelled claim 36. No new matter is added by these claim amendments so that their entry at this time is warranted.

**Rejection Under 35 U.S.C. § 102(b)**

Claims 30, 31, 33-36 and 40-42 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 5,938,906 to Moi *et al.* ("Moi") for the reasons discussed on pages 2-3 of the Office Action. Applicants respectfully submit that claim 30, amended in accordance with your suggestion to rewrite claim 37 in independent form, and claims 31, 33-34 and 40-42, which depend either directly or indirectly from claim 30, are not anticipated by Moi.

Moi is directed to casting cassettes for horizontal gel electrophoresis. Moi, col. 1, lines 59-60. The casting cassettes comprise a tray, further comprising a substantially rectangular, flat floor having two opposing side walls perpendicular to the floor, and a lid, further comprising a substantially rectangular, flat top having opposing side edges. *Id.* lines 60-65. Moi is completely silent as to a cassette wherein primary spacing elements include ridges on one wall member and corresponding channels on the other wall member, the ridges being receivable into the channels.

The present invention, as recited in amended claim 30 is directed to a cassette for holding a vertical electrophoretic gel for use in vertical gel electrophoresis comprising:

first and second substantially planar vertical wall members;

spacer means adapted to position the first and second wall members in opposed orientation so as to define between opposed inner faces of the wall members a gel-receiving space having open upper and lower ends and closed lateral sides, **wherein the**

**spacer means includes at least one primary spacing element located on an inner face and adjacent to each lateral edge of the wall member, wherein the primary spacing element includes ridges on one wall member and corresponding channels on the other wall member, and wherein the ridges and channels are adapted so that the ridges are receivable within the channels; and**

locking means, including at least one male member projecting from each side of one of the wall members and at least one complementary receiving member adjacent each side of the other wall member adapted to receive said male members, wherein said corresponding male members and receiving members are adapted not to effect locked engagement of the first and second wall members unless opposed inner faces of said wall members lie in parallel planes separated by a predetermined distance, wherein the male members and the receiving members are adapted to effect engagement by a snap-fit.

The amended limitations in claim 30, which are boldfaced and underlined, are incorporated from dependent claims 35-37. This amendment is based, in part, on your suggestion to rewrite claim 37 to include all of the limitations of the base claim and any intervening claims.

To anticipate a claim, a reference must teach each and every element of the claim. Manual of Patent Examining Procedure (MPEP) § 2131. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 914 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Applicants respectfully submit that Moi does not disclose or even suggest the element (limitation) in claim 30 reciting, “wherein the primary spacing element includes ridges on one wall member and corresponding channels on the other wall member, and wherein the ridges and channels are adapted so that the ridges are receivable within the channels.” For at least this reason, Moi does not anticipate amended claim 30 of the present invention. Nor does Moi anticipate claims 31, 33-34 and 40-42, since it is axiomatic that dependent claims cannot be anticipated if their underlying independent claim is not anticipated.

**Rejection Under 35 U.S.C. § 103**

Claims 30, 31, 33-36, 40-42, 54 and 56 were rejected under 35 U.S.C. § 103 as obvious over U.S. patent No. 4,919,784 to Yetman ("Yetman") in view of Moi for the reasons discussed on pages 3-5 of the Office action. Applicants respectfully submit that claim 30, amended in accordance with your suggestion to rewrite claim 37 in independent form, and claims 31, 33-34, 40-42, 54 and 56, which depend either directly or indirectly from claim 30, are not obvious over this combination of art.

Yetman is directed to a spacer for use with an electrophoresis cassette. Yetman, col. 1, lines 5-7. The front and back plates of the cassette are held apart by a side spacer. *Id.*, col. 2, lines 33-35. Yetman is silent as to the presence of a locking means which effect engagement by a snap-fit. Yetman is also silent as to the presence of primary spacing elements including ridges on one wall member and corresponding channels on the other wall member, the ridges being receivable into the channels.

In order to establish a *prima facie* case of obviousness, three basic criteria must be met: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings; (2) there must be a reasonable expectation of success; and (3) the prior art references must teach or suggest all of the claim limitations. See Manual of Patent Examining Procedure (MPEP) § 2142, citing *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991).

Applicants respectfully submit that Yetman does nothing to resolve the deficiencies of Moi with respect to teaching or suggesting the limitation in amended claim 30 which recites "wherein the primary spacing element includes ridges on one wall member and corresponding channels on the other wall member, and wherein the ridges and channels are adapted so that the ridges are receivable within the channels." As previously stated, Yetman is completely silent as to the presence of primary spacing elements including ridges on one wall member and corresponding channels on the other wall member. Thus, the combination of Yetman and Moi does not teach or suggest all of the claim limitations. For at least this reason, the combination of Yetman and Moi does not render obvious amended claim 30 of the present invention. Nor does

the combination of Yetman and Moi anticipate claims 31, 33-34, 40-42, 54 and 56, which depend either directly or indirectly from claim 30.

Claims 43-49 were rejected under 35 U.S.C. § 103 as being obvious over Moi (or Yetman in view of Moi) in view of WO 97/04307 (“WO ‘307”) for the reasons discussed on page 5 of the Office Action. Applicants respectfully submit that claims 43-47, which depend either directly or indirectly from amended claim 30, are not obvious over this combination of art.

WO ‘307 is directed to a cassette for use in the formation of an electrophoretic gel, wherein the opposing walls of the cassette are held in place by projections which are clipped or welded to the opposite wall. WO ‘307, page 2, line 20 – page 3, line 6. WO ‘307 is silent as to “snap-fit” type locking means to ensure that the two planar wall members lie in parallel planes separated by a predetermined distance when locked. Rather, the fit between the two walls of the cassette is achieved through a series of conical projections, originating from either or both faces of the walls which inter-engage to form a friction fit. *Id.*, page 6, lines 13-25. WO ‘307 is also silent as to the presence of primary spacing elements including ridges on one wall member and corresponding channels on the other wall member. Although WO ‘307 does include ridges, these ridges are used to form a seal along each side of the cassette to prevent leakage of the gel-forming liquid during setting of the gel or the electrical current during electrophoresis. *Id.*, page 6, lines 2-5.

Applicants respectfully submit that WO ‘307 does nothing to resolve the deficiencies in Yetman and Moi. That is, WO ‘307 does not teach or suggest primary spacing elements which include ridges on one wall member and corresponding channels on the other wall member, the ridges being receivable into the channels. In contrast, the fit between the two walls in the cassette of WO ‘307 is achieved through the use of conical projections originating from either or both wall faces. This is a fundamental difference between the teaching of WO ‘307 and the present invention. Therefore, the combination of these three references would not teach or suggest all of the claim limitations, most importantly the limitation in claim 30 reciting that “the primary spacing element includes ridges on one wall member and corresponding channels on the other wall member, . . . wherein the ridges and channels are adapted so that the ridges are receivable within the channels.” For at least this reason, the combination of Yetman, Moi and

WO '307 does not render obvious amended claim 30 of the present application or its dependent claims 43-49.

Claims 43-49 were rejected under 35 U.S.C. § 103 as being obvious over Yetman and Moi as applied to claim 30, further in view of U.S. Patent No. 5,288,465 to Margolis ("Margolis") for the reasons discussed on page 5 and 6 of the Office Action. Applicants respectfully submit that claims 43-47, which depend either directly or indirectly from amended claim 30, are not obvious over this combination of art.

Margolis discloses a cassette for electrophoretic gels formed of two parts which incorporate means to hold the two parts together, and a plurality of dividing ribs on one or each of the walls to subdivide at least one end of the gel receiving space into a plurality of substantially parallel wells. Margolis, col. 1, lines 5-10 and col. 1, line 68- col. 2, line 8. Margolis is silent as to the presence of primary spacing elements including ridges on one wall member and corresponding channels on the other wall member, the ridges being receivable into the channels.

Applicants respectfully submit that Margolis does nothing to resolve the deficiencies in Yetman and Moi. Margolis does not teach or suggest primary spacing elements which include ridges on one wall member and corresponding channels on the other wall member, the ridges being receivable into the channels. Accordingly, the combination of this art does not teach or suggest each limitation of claim 30. For at least this reason, the combination of Yetman, Moi and Margolis does not render obvious amended claim 30 of the present application or its dependent claims 43-49.

Claims 50-53 were rejected under 35 U.S.C. § 103 as being obvious over Moi or Yetman in view of Moi as applied to claim 30 further in view of U.S. Patent No. 6,436,262 to Perez ("Perez") for the reasons discussed on page 6 of the Office Action. Applicants respectfully submit that claims 50-53, which depend either directly or indirectly from amended claim 30, are not obvious over this combination of art.

Perez is directed to electrophoresis cells for slab gel electrophoresis. Perez, col. 1, lines 6-7. Perez teaches a pair of clamps designed to secure a cassette or parallel plate gel enclosures to a frame in a manner that will form the cassette and frame into buffer chambers as part of an electrophoresis cell. *Id.*, col. 1, lines 46-49.

Applicants respectfully submit that Perez does nothing to resolve the deficiencies of Moi and Yetman. Perez does not teach or suggest primary spacing elements which include ridges on one wall member and corresponding channels on the other wall member, the ridges being receivable into the channels. Accordingly, the combination of this art does not teach or suggest each limitation of claim 30. For at least this reason, the combination of Yetman, Moi and Perez does not render obvious amended claim 30 of the present application or its dependent claims 50-53.

It is thus respectfully submitted that claims 29-31, 33-34, 38-54, 56, 58, and 60-61 define new and unobvious subject matter and should be found allowable.

Favorable action is requested.

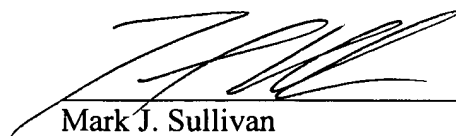
#### Conclusion

The amendments made herein are fully supported by the as-filed specification, and as such, no new matter has been added by way of the present amendment. Therefore, Applicants respectfully submit that the instant application is in full condition for allowance. Favorable examination of the claims on the merits is respectfully requested.

The Examiner is invited to contact the undersigned if any issues remain outstanding after consideration of this Amendment and Response.

Respectfully submitted,

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Dated: July 13, 2005  
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